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ABSTRACT

This literature review discusses the nature of instructional development (ID) and the ID movement, and examines the factors affecting the success of ID in higher education, focusing in particular on the organization and implementation of ID programs. The role of ID agencies is discussed and the various characteristics of such agencies are considered in terms of advantages and disadvantages to the agencies. The types of projects that such agencies might best undertake are discussed in the context of both the long-term success of the agency and such factors as administrative location, staffing, size of project, and product versus people development. Methods for project generation and selection by ID agencies are also presented. Finally, the implementation of broad-based ID paradigms in higher education by such agencies is discussed, including consideration of such factors as institutional reward structures, administrative commitment, administrative location, instructional development procedures, team approach, faculty development, evaluation, and maximizing impact. The text is supplemented by five tables, and a 46-item bibliography is provided. (Author/EW)

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CHAPTER VII

THE ORGANIZATION AND IMPLEMENTATION OF INSTRUCTIONAL DEVELOPMENT PROGRAMS IN HIGHER EDUCATION:

A REVIEW OF LITERATURE

By

Joseph J. Durzo

Introduction

The focus of this literature review is on the organization and implementation of instructional development programs in higher education. The literature reviewed here is concerned primarily with the organization and implementation of instructional development programs rather than with the specific instructional design procedures or models used by various agencies.[1] No attempt will be made here to review the theories, research evidence, and procedures used in the design and evaluation of instructional products, which range in scope from units of instruction to entire courses or groups of courses. General reviews and discussions of these topics may be found in sources such as Baker (1973), Baker and Schutz (1971), and Gerlach and Ely (1971).

The following topics are included in the review: (1) The Nature of Instructional Development, (2) The Instructional Development Movement, (3) The Role of Instructional Development Agencies, (4) Characteristics of Instructional Development Agencies, (5) Approaches to Instructional Development, (6) The Scope of Instructional Development Projects, (7) Project Generation and Selection, and (8) Implications for Implementing Instructional Development Programs.

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[1] For information about the nature of particular instructional development agencies see L. T. Alexander and S. L. Yelon (eds.), *Instructional development agencies in higher education.* East Lansing, Michigan: Michigan State University, Learning Service, 1972.

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The Nature of Instructional Development

Instructional development is a relatively new movement in education. As with any relatively new field of endeavor, there is still much discussion about the definitions and terminology used by those practicing instructional development. Many writers have provided descriptions and definitions of instructional development. Some definitions, such as the one by Engel (1969) are rather technical in nature and seem to those outside the field of educational technology to be overly reliant on the jargon of education:

> **Instructional Development:** A program whereby specialists, working with faculty at the message, unit, or course level, analyze the learner; specify objectives; scrutinize content and establish teaching strategies; procure and produce appropriate media; field test; evaluate, revise, and implement the instructional patterns thus developed. (pp. 18–19)

Another definition of instructional development was offered by Clarence Schauer (1971), the Vice-President for Academic Affairs at William Rainey Harper College. He described a college administrator's view of instructional development:

> The term Instructional Development is a new one, and it has different meanings for different people. I will define Instructional Development as *common-sense planning of cooperation to identify and define learning problems and to attempt resolution of these problems with a plan for action, evaluation, try-out, feedback, and results.* (1971, p. 44)

Gustafson (1971), a practitioner in the field of instructional development, offered a simple definition. He said that instructional development is "a process for improving the quality of instruction" (p. 1). Hamreus, another instructional development professional, described instructional development as "a systematic process of bringing relevant goals into effective learning activity" (p. 1). Buhl (1975) suggested that instructional development can be thought of as "a set of activities aimed at improving the conditions of learning for students" (p. 2). A common theme underlying these and other definitions is the application of some sort of systematic process to the design or development of instruction. The Definition and Terminology Committee of the Association for Educational Communications and Technology (1972) described this common theme as "systems design" or the "systems approach to instructional development." The Committee explained further:

> The purpose of systems thinking and procedures . . . is to provide a way of being systematic about how we develop, organize and make available learning resources for the learner. (p. 38)

Twelker, Urbach, and Buck (1972) described the origins of the systematic approach in education:

> The systems approach in education traces its roots back to the development of weapons systems in the military and, more recently, the production of commodities in industry. . . . The systems approach is in a very real sense a management tool that allows individuals to examine all aspects of a problem, to inter-relate the effects of one set of decisions on another, and to optimally use the resources at hand to solve the problem. (p. 1)

They described the "systems approach to instruction" as a "systematic way of identifying, developing and evaluating a set of materials and strategies aimed at accomplishing a particular goal." (p. 1)

Despite the many different points of view on various issues held by authors writing about instructional development, there is general agreement that instructional development implies some sort of systematic approach to the design or improvement of instruction. Jerry Gaff (1975 b) offered a definition intended to clarify the meaning of the term for faculty and administrators who are not familiar with many of the sources cited earlier in this section:

> Instructional development is a recent academic specialization that may be defined as the systematic and continuous application of learning principles and educational technology to develop the most effective and efficient learning experiences for students. (p. 47)

In general, when the term "instructional development" is used in this chapter it will be in the broad sense of the Gaff definition.

The Instructional Development Movement

The Carnegie Commission on Higher Education (1972) described an emerging group of professionals whose job it is to "help faculty members define objectives of courses of instruction, to plot the learning strategies to be employed, and to evaluate the results" (p. 71). These professionals are generally referred to as instructional developers or instructional development specialists. The Commission recommended that:

> Colleges and universities should supplement their instructional staffs with qualified technologists and specialists to assist instructors in the design, planning, and evaluation of teaching-learning units. . . . (pp. 73–74)

Holsclaw (1974), Twelker, *et al.* (1972), and others have observed that the movement toward systematic instructional development in education is rapidly gaining attention and acceptance in this country. Diamond (1971) concluded that:

> There can be little doubt that, as far as the media profession is concerned, instructional development is "in." The symptoms are everywhere – new job titles with new descriptions; new terminology, new organization charts, new graduate curricula designed to meet the growing demand for experts in the area, and, of course, convention programs built around the topic. (p. 6)

Buhl (1975) emphasized the relative recency of the instructional development movement, explaining that as a formal movement "with a set of people who see themselves working at a profession, instructional development is perhaps no more than 15 years of age. Only over the last five has it gathered real force" (p. 3). Gaff (1975 a) also discussed the recent growth of instructional improvement programs in higher education:

> Centers, divisions, offices and programs have been established to provide services variously referred to as instructional development, learning resources, faculty development, teaching improvement, professional development, or organizational development. They have been established by every kind of college and university as well as by state systems, consortia, and associations. . . .
>
> These new enterprises are still in the formative stage. Improving the quality of instruction has been like the weather – everybody talks about it but nobody does anything about it. But today, new concepts of instructional improvement are being advanced and new programs are providing opportunities for faculty members to enhance one or more aspects of their teaching. (p. 91)

Vogel (1973), Butterbaugh (1971), Engel (1969), and Alexander and Yelon (1972) have also pointed out the increasing numbers of colleges and universities which have recently developed agencies or programs on their campuses to support the improvement of instruction. Semas (1975) in the *Chronicle of Higher Education* recently discussed the "explosive growth" of programs in higher education intended to improve the quality of teaching.

Gaff (1975 b) concluded that the specialization of instructional development came into being as the result of four different forces: (1) the recent impact of results of years of research on the learning process; (2) the application of the systems approach to the production of learning materials and educational design; (3) the development of a set of procedures for the improvement of teaching, commonly referred to as the instructional development process; and (4) adoption by educational technologists of the instructional development approach as an outgrowth of their earlier involvement in the design and production of instructional

materials. Alexander and Yelon (1972) attributed the development of such programs and agencies to the increasingly widespread dissatisfaction with the quality of undergraduate education. Schauer (1971) argued that the students attending colleges and universities and the fiscal supporters of those institutions have begun to place increasing pressure on the institutions to produce improved results from instructional programs. He asserted that necessary instructional innovation and improvement are not easy tasks:

> It has become evident in the past few years that the improvement of instruction necessitates a concerted effort on the part of able teachers, administrators, resource people, and concerned citizens. (p. 44)

Wight (1973) concluded that higher education will have to face four major problems in the next decade which will necessitate changes in the conception of instruction and the structure of higher education:

1. A larger and more diverse population must be served.
2. Costs must be reduced while satisfying increased demand.
3. Education must conform to the schedules of a non-traditional working student population.
4. Education must meet the needs of a technological society which changes constantly. (p. 44)

Gaff (1975 a) explained that higher education will have to look inward to solve these problems, since the end of the era of surplus external money and high faculty mobility has limited the likelihood of change coming from infusions of external money or new faculty members:

> Most colleges and universities are affirming the primacy of teaching rather than research. Faced with the prospects of leveling student enrollments, declining faculty positions, and becoming "tenured in," most institutions are coming to realize that they will have to rely on their current faculty to provide fresh perspectives, infuse new ideas, and give leadership to innovative programs if they expect to maintain vigorous educational climates in the years ahead. (p. 91)

In order to assist their faculty members to meet these challenges, many institutions have turned to instructional development, fueling the growth of such programs.

Popham (1974) concluded, however, that the quality and sophistication of such programs in higher education "lags by several decades the quality and sophistication of R & D to improve elementary and secondary instruction" (p. 11). He went on to paint a dismal picture of the work to be done in improving collegiate instruction, setting forth reasons similar to those presented by other critics of collegiate instruction:

> It is not difficult to account for the low quality of university teaching. The vast majority of university professors have given little, if any, formal attention to the conduct of instruction. Most professors acquire their instructional styles largely as a consequence of emulating a respected professor, or through some sort of ill-defined borrowing from the dozens of diverse teachers they (as students) have encountered. Few professors have devoted any systematic consideration to the procedures whereby instruction can be planned so that it is optimally effective. Few have really considered the most appropriate instructional activities for their classes, preferring instead to "cover" as much content as possible. Still fewer have attempted to familiarize themselves with methods of determining their instructional effectiveness on any grounds other than their own intuitive impressions, occasionally abetted by student ratings. (p. 11)

He argued that colleges and universities must substantially strengthen their commitments to teaching improvement in order to make inroads in what he viewed as a serious problem. He further claimed that many of the efforts now underway on the nation's campuses are "tokenistic and half-hearted," operating on insufficient budgets and run by administrative "hacks."

> In numerous institutions of higher learning the commitment to improve faculty instructional capabilities is largely political, stemming more from public relations motives than from a genuine desire to bring about increased faculty effectiveness. To get a true fix on a university's devotion to staff improvement, check first the size of the financial allocation for that enterprise, then judge the quality of the personnel assigned to the task. (p. 13)

Instructional development is a young movement. Popham wondered about its future, asking whether instructional improvement will become "an integral part of any effectively functioning institution of advanced learning? Or will 'instructional development programs' in higher education disappear as a fad . . . ?" (p. 13) In part, the answer to that question may lie in the ability of those planning instructional development programs to learn from the efforts of programs which are already in existence.

The Role of Instructional Development Agencies

An increasing number of colleges and universities have established agencies on their campuses intended to provide support for faculty who desire to attempt academic innovation. While the scope and structure of these agencies vary from campus to campus, they share one common goal: to contribute to the development of improved college instruction.

Despite their different titles, such agencies were referred to by Alexander and Yelon (1972) as "instructional development agencies" because of their common mission to improve college instruction.

According to Diamond (1974), the role of instructional development agencies is to function as catalysts in bringing about change in academic programs. He argued that instructional development agencies are necessary to stimulate change because schools and departments alone "do not have the resources, the clout, or the range of expertise required to implement major program changes" (p. 8). He explained that a central agency located in a relatively high position in an institution can provide development and evaluation assistance and funds for the faculty release time necessary to do instructional development. The agency can aiso act as an institutional communications network, while functioning as an advocate for instructional innovation. Briley (1971) commented that instructional developers and instructional development agencies are necessary to "provide instructional leadership, assuring that the college is accountable for the learning – or lack of learning – which takes place among its students" (p. 40). He also said that such agencies serve as catalysts for the improvement of instruction providing specialists in the techniques and resources needed to improve instruction. Holsclaw (1974), Detweiler (1973), Grimes and Doyle (1971), Butterbaugh (1970), and other authors also stated that a major purpose of an instructional development agency is to function as a catalyst and support agency for instructional change. Schauer (1971) argued that such agencies are required in order to provide the necessary assistance to produce meaningful, long-range changes in educational programs. He pointed out that faculty and administrators often do not have the available time and energy necessary to produce broad changes:

> Traditionally, a teacher spends much time making instructional decisions while the student is in the classroom, but too often slights the preparatory and follow-up activities. Administrators are too often concerned about budgetary, landscaping and personnel problems, and check only on student enrollments, grade reports, student placement, and follow-up studies to monitor the activities of the educational process. (p. 44)

Roueche and Boggs (1970) listed seven functions which an educational development officer (an instructional developer-change agent) ought to perform in a community college setting:

1. To train faculty
2. To help select and state learning objectives
3. To help with measurement problems
4. To help design learning activities
5. To help redesign learning activities
6. To conduct instructional research and evaluation
7. To promote research-based decisions (pp. 8–9)

In 1971, a conference attended by representatives of instructional development agencies of fourteen colleges and universities was held at Michigan State University. Alexander and Yelon (1972) summarized the various activities of these agencies and concluded that they could be placed into three major groups: service, research, and teaching. Their analysis of the activities of the instructional development agencies attending the conference is shown in Table 1.

The range of activities or roles outlined by Alexander and Yelon confirms Butterbaugh's (1971) statement that "Instructional design programs presently run the gamut of every nature and extent imaginable." (p. 26). The literature describes many of the roles undertaken by various agencies; however, it does not offer any clear answer to questions about the optimum combination of roles which an instructional development agency should play.

TABLE 1

TYPICAL ACTIVITIES OF FOURTEEN
INSTRUCTIONAL DEVELOPMENT AGENCIES

A. SERVICE

1. Conduct faculty workshops, seminars, institutes, and training programs on learning, instruction, and associated topics. (8)
2. Assist departments in analysis, planning, and design of curricula. (7)
3. Assist faculty to develop instructional materials. (7)
4. Internal publications: handbooks, project reports, and notes on instructional development topics. (7)
5. Consult with individual faculty members. (5)
6. Provide test scoring and analysis services. (5)
7. Provide instructional TV services. (5)
8. Administer and score standard tests (admission, placement, etc.). (5)
9. Provide media equipment (store, repair, and distribute). (4)
10. Maintain reference library on instructional development topics in higher education. (4)
11. Advise and assist community agencies outside university (schools, colleges, hospitals, UNESCO, and WHO). (4)
12. Maintain laboratories for faculty research and development in instruction. (3)
13. Provide administration with technical advisory services, re: instructional development. (3)

B. RESEARCH AND DEVELOPMENT

1. Learning system design: instructional models, materials and procedures. (14)

TABLE 1 (Cont'd)

2. Instructional programs: underprivileged students, honor students, foreign language students, simulation and gaming, and professional curricula (medicine, law, and pharmacy). (14)
3. Instructional evaluation. (8)
4. Training programs for faculty and teaching assistants. (5)
5. Individualized instruction, independent learning, computer-aided instruction, and programmed instruction. (5)
6. Educational tests and measurements. (4)
7. Impact of college on student development; recruitment. (3)
8. Organizational planning and governance. (2)
9. Cost benefit analysis of instructional systems. (1)
10. Instructional applications of media. (1)

C. COURSES TAUGHT

1. Instructional design and technology. (8)
2. Educational Psychology. (6)
3. Statistics and research design. (3)
4. AV Media. (3)

SOURCE: L. T. Alexander, S. L. Yelon (eds.). *Instructional development agencies in higher education.* East Lansing, Michigan: Michigan State University, Learning Services, 1972, pp. 4–5.

NOTE: Numbers in parentheses refer to the number of agencies reporting the activity.

Characteristics of Instructional Development Agencies

Lee (1972) reported on the results of a survey of 124 persons associated with instructional development programs about various characteristics of those programs. From the results he developed a profile of the "typical program." The following excerpts are from the profile of Lee's "typical program":

- The major objective of the program is to improve the quality of instruction at the parent institution.
- The program is still maturing since it has probably been in existence less than three years.
- Faculty size is approximately 550, and the size of the student body is around 15,000. (This is not to suggest that smaller or larger institutions have a greater or lesser potential for success in their development activities, but that the majority of today's practitioners are from the ranks of the "medium-sized" institutions.)

- The level of the program is uncertain. There is some concern that development not "outrank" the faculty, it being better for them to participate voluntarily than to do so of necessity.
- An advisory board exists to help the director guide the the development program.
- The director has firm control over faculty members who participate in the program.
- The program is well known among faculty members of the parent institutions as a result of publicity originating from the program itself. The program has received some notice from outside the institution as a result of its product marketing activities, which are also promoted by program personnel.
- The director's time is spent developing, consulting, teaching, researching, and administering in approximately equal amounts.
- The program is permanently housed in a central geographic location.
- Major program obstacles to more effective instructional development are lack of sufficient funds and lack of qualified personnel. Lack of faculty interest and inadequate physical facilities also impair the efficient functioning of the program, but to a lesser extent.

(pp. 16–17)

In an extensive review of instructional development, Detweiler (1973) observed that "The particular services offered and the internal structure of the programs vary greatly" (p. 29). She explained further:

> Central to all, however, is instructional design, the use of the systems approach to plan a course or curriculum. The scope of instructional design services varies. The service can mean, for example, giving faculty grants to write programmed learning booklets, or it can mean providing a Plato computer terminal and staff to assist faculty in creating software for it. It can mean complete film production services, or it can mean courses for the faculty on computer assisted instruction. (p. 29)

The kinds of services provided and, hence, the characteristics and structures of the agencies, depend largely upon the approaches taken by the agencies to improve instruction. (The major approaches taken by instructional development agencies are discussed in a subsequent section of this chapter.) Detweiler (1973) pointed out that the literature does not effectively prescribe the appropriate structure and functions for a given instructional development agency at a given institution:

> The exact nature of the individual programs depends partly on the institution's financial capacity and partly on the extent of services offered elsewhere on campus. . . . Thus, every Instructional Development program must be custom-made for its own campus circumstances, and that is part of the difficulty in finding a model. (p. 29)

Diamond, *et al.* (1975), however, suggested that three basic components should be a part of any instructional development agency: development, evaluation, and production.

Despite the differing views in the literature about the purposes of instructional development agencies and the components that they should have, the following three characteristics appear to be of central importance to all agencies: (1) administrative location, (2) funding, and (3) staff.

ADMINISTRATIVE LOCATION

Alexander and Yelon (1972) believed that instructional development agencies can have the most influence on instruction if they are located within the administration of an institution at a point where they can have a high impact on a large number of faculty members. They were not surprised to find "that of the fourteen agencies represented at the (Michigan State University) conference for which data are available, nine are located in the central administration of their university" (p. 5). They also reported that the directors of these agencies were directly responsible to the highest academic officer, the provost, the vice-president for academic affairs, or the chancellor. Butterbaugh (1970) noted that all six of the instructional development agencies that he studied were structured and organized directly under the University chief academic officer. Engle (1969) reported that in a survey of 72 instructional development programs, "institutional presidents, vice-presidents and deans account for 68 per cent of the responses specifying who sets administrative policy for instructional development" (p. 67).

FUNDING.

Alexander and Yelon (1972) reported a wide variation in the annual budgets of the instructional development agencies attending the Michigan State Conference. As expected, they noted that the budget size was directly related to the size of the staff and consequently to the number and variety of activities of the programs. Their summary of the relationship between budget size and staff is presented in Table 2.

TABLE 2

ANNUAL BUDGETS (1970–1971) AND STAFFS OF FOURTEEN INSTRUCTIONAL DEVELOPMENT AGENCIES

Budget (thousands of dollars)	Agencies	Professional Staff (FTE) Range	Professional Staff (FTE) Median	Total Staff Range	Total Staff Median
less than 200	5	1–6	3	2–17	6
200–399	3	2–27	6	5–30	27
400–599	2	7–9	–	38–45	–
600 or more	2	10–65	–	94–95	–
No data	2				

SOURCE: L. T. Alexander and S. L. Yelon (eds). *Instructional development agencies in higher education.* East Lansing, Michigan: Michigan State University, Learning Service, 1972, p. 6.

NOTE: Five agencies disbursed additional funds as grants to faculty engaged in instructional development projects. These funds are not included in the table.

Diamond, *et al.* (1975) also observed that the total budget for an instructional development program will vary considerably from institution to institution. They developed a *sample* three-level budget for a university instructional development program (see Table 3). Level I is one possible approach to a start-up budget, while Levels II and III represent expanded budgets for larger operations.

In addition to the size of the budgets of the agencies, the sources of their support are also of interest. Alexander and Yelon summarized the sources of funds which supported 14 of the instructional development agencies represented at the 1971 Michigan State conference (see Table 4).

Engel (1969, p. 70) reported that the sources of funds for the 72 instructional development agencies that he surveyed were from varied sources including:

- A special fund from the central administration
- A grant or contract from an outside source
- Instructional development program/department or audiovisual center funds

(For continuation, see p. 124.)

TABLE 3

SAMPLE BUDGET FOR INSTRUCTIONAL DEVELOPMENT AT THREE LEVELS OF SUPPORT

	LEVEL I (Minimum start up)	LEVEL II	LEVEL III
Staff			
Director		$20,000	$25,000
Developer(s)	$18,000	16,000	48,000
Evaluator(s)	16,000	16,000	24,500
Clerical/Administrative	5,000	12,500	22,000
Graphic Artist	–	8,000	14,000
Graduate Assistants (Development/Evaluation) (includes tuition)		18,000	36,000
Part-Time Help	3,000	4,000	5,000
Faculty Employment/ Release time	8,000	12,000	15,000
Materials Editor	–	5,000	9,000
Operating (Project support)			
Office Supplies/Telephones	2,500	3,000	4,000
Travel	800	1,200	3,000
Instructional Materials (commercial)	1,500	3,000	6,000
Graphic/Photo Supplies	1,500	3,000	5,000
Equipment (Experimental and office)	2,000	3,000	5,000
Printing (will change if internal unit established)	1,000	3,000	5,000
	$59,300	$127,700	$226,500
Independent Learning Lab (see Appendix B)*			
Equipment and Furniture (one time only)	$20,000		
Staff (including Student Assistant)	8,000–14,000		
Instructional Materials	4,000 (first year)	$3,000 (second)	
Printing Operation			
Equipment	3,500		
Staff	8,000		
Supplies	4,000		

SOURCE: R. M. Diamond, *et al. Instructional development for individualized learning in higher education.* Englewood Cliffs, N. J.: Educational Technology Publications, 1975, p. 24.

NOTE: The budget does not cover technical support (television, audio) or audio-visual services, both of which already exist to some extent on most campuses.

*Appendix B in R. M. Diamond, *et al.*

(Continued from p. 122.)

- Funds appropriated to individual departments for developmental work
- Interinstitutional consortium (a small amount for one institution)
- Self-perpetuating revolving fund (indicating a system of charges for service and sales of products)

He observed that the heaviest concentration of funds supporting instructional development programs came from the instructional development department or audio-visual center in which the program was housed. Twenty programs reported that 50 per cent or more of their funds came from grants or contracts from outside sources.

TABLE 4

INSTRUCTIONAL DEVELOPMENT AGENCIES' SOURCES OF FUNDS

Source	Number
University General Fund	5
Grant	3
Combination of General Fund and Grant	3
State Budget Line Item	2
No Data	1

SOURCE: L. T. Alexander and S. L. Yelon (eds.). *Instructional development agencies in higher education.* East Lansing, Michigan: Michigan State University, Learning Services, 1972, p. 6.

STAFF

Alexander and Yelon (1972) explained that instructional development agencies are usually staffed by professional, technical, and clerical personnel and by students working as research assistants. In some instances, professional staff members have joint appointments in academic departments. Detweiler (1973) concluded in her review that the exact size of the program staff varies from institution to institution, depending on the scope of the program.

In 1969 Engel found that the 72 institutions that he surveyed reported a predominance of media specialists on the instructional development teams of the various agencies. (It must be remembered, however, that in 1969, the frequency of use of the term "instructional developer" was much lower than at the present time. Many of the professionals in instructional development today began their careers in the media

programs of their institutions; thus it would be expected that in 1969 people doing instructional development would often refer to themselves as "media specialists.") Learning theorists and testing and evaluation specialists were also reported as being members of instructional development teams, usually on a part-time basis. Many of the 72 programs examined by Engel were staffed with a full-time director and one or more part-time staff members.

Alexander and Yelon (1972) observed that instructional development agencies are staffed primarily by behavioral scientists since "instructional development is essentially an applied behavioral science" (p. 6). They said that the staffs consisted primarily of psychologists, but that members of other disciplines were also represented, such as education, communication arts and sciences, instructional media and technology, and philosophy. Butterbaugh (1970) found that the program directors of the six agencies that he studied had doctorates in the areas of administration, educational research, educational psychology, instructional communications, and educational measurement and evaluation.

Diamond *et al.* (1975) recommended three basic staff functions which they believed to be necessary in agencies established to facilitate innovations: development, evaluation, and production. Recognizing that not all institutions may be able to afford a large agency, they explained that it is possible for a school to begin with an administrator (who also functions as a developer), an evaluator, minimal production support, and a single clerical position. In a cautionary note, Anderson (1972) warned of the dangers of increasing specialization within the field of instructional development. He argued that the amount of money needed to support large instructional research and development teams will prevent all but a few institutions from having large instructional development agencies. He explained the implications of this financial pressure:

> What this means for instructional development is fairly clear. Colleges and universities, if they go the development route at all, will be forced to do so with one or, infrequently, two full-time developers. (p. 21)

Anderson predicted that, for the most part, colleges will hire only one instructional developer who must be a jack-of-all-trades, with skills in analysis, design, research, and evaluation.

Approaches to Instructional Development

Not all instructional improvement efforts approach the problem in the same manner. In fact, different agencies often view the same symptoms as relating to different problems. Following a study of instructional

improvement programs for the Exxon Education Foundation, Gaff (1975 a) observed:

> Although all instructional improvement programs are designed to raise the quality of teaching and learning, these programs vary considerably. Depending on what aspects of the teaching-learning process they emphasize, they may be categorized in one of three ways: as instructional development, faculty development, or organizational development. Each category draws on different intellectual traditions, makes different analyses about what ails teaching and learning, and prescribes different solutions. (p. 94)

His book describing the results of the Exxon Study (1975 b) explained the differences among the three approaches. Instructional development, he thought, focuses on "courses or curricula, and . . . seeks to improve the conditions and materials that promote student learning" (p. 10). He felt that the intellectual roots for this approach lay in curriculum and instruction, learning theory, educational media and technology, and systems theory. This view is generally in agreement with the views of the majority of those writing about instructional development.

He described the faculty development approach as one which "focuses on faculty members and seeks to promote their individual growth and development" (p. 8). He observed that such programs help faculty to explore their attitudes about teaching and learning and acquire more knowledge and skills related to the teaching-learning process. Gaff felt that "the intellectual underpinnings of faculty development are in clinical, developmental and social psychology, psychiatry, and the sociology of work and socialization" (pp. 8–10). The focus of this approach is on faculty members rather than the courses they teach.

Organizational development, he said, focuses on the institution as a whole or on some sub-unit such as a department or a division and "seeks to create a more effective environment within which teaching and learning can occur" (p. 10). This approach is based on organizational theory, organizational change, and group dynamics. The goal of organizational development is to develop administrative and interpersonal competencies among organization leaders and to develop policies that support teaching improvement. Table 5 summarizes the three approaches described by Gaff.

Gaff presented a useful way of distinguishing among the types of instructional improvement efforts; however, he did not attempt to evaluate the relative effectiveness of each approach in improving the teaching-learning process. He did, however, suggest that these approaches are complementary and should be combined in any comprehensive approach to the problem of instructional improvement. Diamond (1974), Buhl (1975), and others have commented on the need for a comprehensive

TABLE 5

ALTERNATIVE CONCEPTIONS OF INSTRUCTIONAL IMPROVEMENT

	FACULTY DEVELOPMENT	*INSTRUCTIONAL DEVELOPMENT*	*ORGANIZATIONAL DEVELOPMENT*
Focus:	Faculty members	Courses or curricula	Organization
Purpose:	Promote faculty growth; help faculty members acquire knowledge, skills, sensitivities, and techniques related to teaching and learning.	Improve student learning; prepare learning materials; redesign courses; make instruction systematic.	Create effective environment for teaching and learning; improve interpersonal relationships; enhance team functioning; create policies that support effective teaching and learning.
Intellectual base:	Clinical, developmental, and social psychology; psychiatry; socialization.	Education, instructional media and technology, learning theory, systems theory.	Organizational theory, organizational change; group processes.
Typical activities:	Seminars, workshops, teaching, evaluation.	Projects to produce new learning materials or redesign courses; workshops on writing objectives, evaluating students.	Workshops for group leaders or team members, action research with work groups, task forces to revise organizational policies.

SOURCE: J. G. Gaff, *Toward faculty renewal.* San Francisco: Jossey-Bass, 1975, p. 9.

approach to instructional improvement efforts without specifically referring to the types of categories used by Gaff.

Professionals working within the field of instructional development are beginning to broaden their perspective of the field by expanding upon the kind of definition of instructional development presented above by Gaff to include a concern for the development of faculty skills as well as the development of courses. Abedor and Gustafson (1971) described two emphases which may characterize the operation of instructional development agencies: (1) an emphasis on product development (meant in this sense to be equivalent to Gaff's use of the term "courses"), or (2) an emphasis on people development. According to Abedor and Gustafson, "product-oriented" agencies are primarily concerned with the end-products of the development process: instructional products ranging from sets of materials to entire courses. "People oriented" development agencies are concerned more with the professional growth of faculty and their attitudes toward instructional development than with the end-products of the process. Abedor and Gustafson believed that these two different emphases influence the operation of the agency and are important criteria used for selecting instructional development projects.

They pointed out that any product, no matter how well designed and validated, has a relatively short useful life compared to the length of time that a faculty member will be at an institution. This is particularly true now that faculty mobility is decreasing. Consequently, they argued that, in the long run, a faculty member who is committed to instructional development and has developed his/her skills in the process is likely to make a greater contribution to the improvement of teaching and learning at an institution than will the development of any single course. Beilby (1974) perceived the problem in economic terms, reasoning that the task of applying instructional development effectively to the public school setting "is too vast to be accomplished by any army of instructional developers we could realistically expect to produce" (p. 13). He also pointed out that school systems could not afford to hire the required number of instructional developers. The same problem of scale and economics applies to higher education.

There are, however, drawbacks to the people development (or faculty development) approach. Holsclaw (1974) concluded that a development agency with a major focus on people development may not generate tangible results as quickly as agencies which focus primarily on course development. Abedor and Gustafson (1971) also pointed out the time problem, adding that "people development takes considerably more time, effort, and money while the impact is difficult to measure – or predict" (p. 22). Schauer (1971) commented that, in the past, efforts

by faculty to create innovation had not been as productive as he would have hoped and argued for some method of supporting their efforts. Diamond *et al.* (1975) observed that academic change is never easy. They emphasized that "It is often frustrating, sometimes traumatic, and, regardless of the investment, never guaranteed. It requires talented faculty, full administrative support, and purposeful direction" (p. 3).

In a study of instructional development programs, Holsclaw (1974) observed that the institutions he studied were divided on the question of whether to emphasize products or people:

> Four respondents stated that the major emphasis of their instructional development programs was related to product development, while four other respondents replied that the major emphasis of their program was geared toward process (the development of professors). The five remaining respondents stated that the major emphasis of their programs was equally divided between product and process. (p. 90)

The solution to the problem seems to be to incorporate both emphases in an instructional development program. Abedor and Gustafson (1971), Gustafson (1971), Hoban (1974), DeBloois and Alder (1973), and others have argued persuasively that instructional development agencies must strike an effective balance between product development and people development.

The Scope of Instructional Development Projects

The literature on instructional development describes a general agreement among professionals in the field of instructional development that a systematic approach should be used to produce solutions to educational problems. The disagreement among these professionals seems, however, to relate to the size or scope of the problems to be solved by instructional development. Some instructional developers concentrate on the development of small, discrete units of instruction, often referred to as "product development," and others concentrate on larger projects, such as the development of entire courses or whole curricula. The use of the term "product" in this section differs somewhat from its use in the previous section. In the previous section, it was used as one pole of a continuum, "product development . . . . people development," where the term "product" represented the development of some tangible outcome of unspecified size, as opposed to the development of a faculty member's skills in doing instructional development. In this section, the authors cited generally used the term "product development" to refer to the systematic process of designing and validating a segment of instruction, usually *smaller* than a whole course.

Hamreus (1971) identified three sizes of instructional developme projects that he felt were usually developed:

> (1) *the package size,* which is self-contained and can be purchased and inserted in a course by a teacher either as a supplemental element or to replace some specific lesson segment;
>
> (2) *the component size,* which constitutes a major unit of study in a course and which must be designed to dovetail nicely with that which already exists; and
>
> (3) *the total system size,* which is usually a total course or even a curriculum and either replaces an existing one or creates a new one. (p. 10)

Eickmann (1975) suggested that one of the characteristics that differentiates among the various instructional development programs in the country is the scope of the projects undertaken. He listed five sizes o projects: (1) curriculum, (2) program, (3) course, (4) smaller than course, and (5) tiny.

In an important review of the field of instructional development, Eva Baker (1973) placed her emphasis on the technology of developin instructional materials, rather than on the development of entire cours and curricula or on developing faculty skills in instructional developme She traced the history of materials development efforts in education a offered a summary of the issues and problems related to that process. Other authors have also written extensively about the development of various types of instructional products (Baker and Schutz, 1971; Brigg 1970).

Concerning this product development view of the field of instructional development, Grimes and Doyle (1971) commented that:

> There is also a sense of something missing when one tries to relate Instructional Development to the larger question of the process of providing positive change in education. . . . Instructional Development, as it is currently being discussed, is really much closer to the process of instructional design than to the broader concept of educational design [consequently] the proper context in which to consider development as a concept is within the overarching context of the change process in education. (p. 53)

Heinich (1971) warned that, if instructional developers concentrate on the design of small instructional products, they are not entering into t development process early enough. By entering late, he felt that devel ers would tend to accept assumptions and institutional constraints whi would unnecessarily restrict the outcome of the development process.

Diamond (1971) made a strong plea for instructional development programs to concentrate on large-scale projects that will have major im pact. This approach is often called the "major project" approach or t

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"concentrated" approach. The opposite approach, called the "shotgun approach," is to engage in a larger number of less intensive, smaller-scale, short-term projects. Diamond argued against the use of the shotgun approach. He felt that the goal of instructional development must be to create fundamental changes, and that to do so projects must be selected appropriately:

> Supporting numerous, small projects may make a lot of friends and keep our staff busy, but our long range impact will be minimal. This route takes too long to produce meaningful results. We should select major projects and do them well. Smaller efforts must be, in effect, pilot case studies designed to form a base for complete course or curriculum design. (p. 7)

In a summary report of the instructional development program at William Rainey Harper College, Vogel (1973) also echoed the need to focus on relatively large projects. The report recommended that:

> If the improvement of instruction and learning is going to have any lasting effect beyond some successful instructional units, then the instructional development process must be extended to full course development. (p. 8)

Not all instructional developers agree that the "major project" approach is appropriate. Holsclaw (1974) interviewed a group of instructional developers, some of whom expressed the following reservations about large projects:

1. With a large project, you tie yourself up for a year and only satisfy one or two faculty members.
2. If you concentrate on one big course, you have a great impact within one department, but you end up having zero impact on other departments.
3. There are many political and financial obstacles in the way of the big projects. (p. 97)

As a result of his research, Holsclaw developed a set of heuristics concerning instructional development. (He defined a heuristic as "a rule of thumb learned by successive discovery in which one places strong confidence that it is true, that it will work, and that it can be used with assurance." p. 6.) The heuristics that he outlined reflect the different points of view among instructional developers regarding the appropriate scope of instructional development projects. The names following the heuristic refer to the person who is primarily responsible for suggesting it:

Differing Views on "Shotgunning":

4. *Attack the need.* The important issue should be "What is the need?" then "What are the resources that can be brought to bear upon the need?" Don't be concerned about whether it is "shotgunning" or not "shotgunning" (Dale Hamreus).

5. *Start small – prove your worth* (Jerrold Kemp).
6. *"Shotgunning" gives quick turn around on a small scale* (George Vogel).
7. *Use little projects to get big projects* (Thomas Cyrs).
8. *If you "shotgun" you'll never show.* You may train professors and get everybody doing their own thing, yet you still won't come up with effective instructional change (Sherwood Bridges).
9. *"Shotgunning" rarely solves major problems or effects institution-wide changes* (Robert Diamond).
10. *Work for long-range impact on the institution – stick with complete course development or complete course redesign* (Robert Diamond). (pp. 204–205).

There is no universally accepted size for instructional development projects within the field of instructional development. It seems to depend on the mission that each development agency sees for itself. Alexander and Yelon (1972) summarized the choices facing an instructional development agency:

> An instructional development agency can invest its resources – time, energy, and money – in a large number of small projects or in fewer, more comprehensive projects. The choice of project size should depend on its impact. A large number of relatively small instructional projects produces an impact on many departments. Fewer, larger projects produce large changes within the target departments. The main criterion is the estimated probability of success. Projects that produce no definite results, or that are not implemented, produce frustration and disillusionment. (p. 13)

Diamond *et al.* (1975) and Diamond (1971) have consistently argued that the goal of instructional development should be to have maximum impact on the instructional programs of an institution. To do this they suggest that development agencies should identify the top priorities of an institution and choose projects which reflect these priorities. The strategy they advise is to complete a few major projects which will have widespread impact rather than to support numerous small projects which have little overall impact on the nature of the academic program.

Project Generation and Selection

Diamond *et al.* (1975) identified two major methods of generating instructional development projects – the internal approach and the external approach. In the internal approach, the staff of the agency work directly with the administration, deans, and department chairmen to identify high priority needs and to recruit the appropriate faculty to

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carry out the project. Little effort is made to sell the services of the agency to the faculty at large. Rather, the focus of this approach is to support those projects which will have maximum impact on the institution. They list the advantages and disadvantages of this approach:

Advantages

(1) Better balance between priorities and projects.
(2) Fewer rejected projects.

Disadvantages

(1) The overall effort will begin slowly.
(2) Requires extensive administrative cooperation at both the department and college level. (pp. 28–29)

In the external approach, a highly-publicized faculty grant program is initiated to encourage individual faculty members and departments to submit proposals for support by the agency. The scope of this support varies from agency to agency, depending on the context of the institution. The advantages and disadvantages of this approach were also presented:

Advantages

(1) Generates many project requests.
(2) An excellent method of advertising administrative commitment to instructional improvement.

Disadvantages

(1) Many projects will be low-priority and of questionable quality.
(2) Faculty who are turned down may be antagonized.
(3) Close control of projects may be lost unless specific operational guidelines are built into the funding process.
(4) Coordination of projects to meet specific institution-wide goals may be limited.
(5) Political considerations for institutional balance may force awarding of grants to some high-risk, low-priority projects. (p. 32)

Dietrich and Johnson (1967) advised that it is wise to develop a grant program within a university and suggested a simple approach:

> A project base gives the chance to select the activities which most need support. A simple proposal, review, approval, monitoring and reporting function would be established. Faculty members should spend only a minimum time on this procedure and devote a maximum effort to the project itself. (p. 212)

Alexander and Yelon (1972) offered a set of four criteria which have been used to assess such proposals: "(1) the number of students affected, (2) evidence of an experimental approach, (3) potential

application in other areas, and (4) the possibility of evaluation" (p. 9). They also added that the staff of the instructional development agency should stand ready to assist the faculty members in writing and carrying out the proposals. Diamond *et al.* (1975) went further and argued that if quality is to be maintained with this approach, "then the control of every project must remain with the development unit rather than with the requesting department" (p. 32). They asserted that in cases where funds have been given directly to the departments without sufficient control, the results have been unsatisfactory. DeBloois and Alder (1975) described the approach used at Utah State University which they felt combined the best aspects of the external approach with the need for developer control. The program consists of three phases of activity: Phase 1 involves *awareness activities* designed to make faculty aware of the available services and to circulate information about the teaching-learning process. Phase 2, *faculty support activities,* provides small grant awards to faculty to support limited efforts to improve their instruction and provides gratis support from the instructional development staff. Phase 3, *instructional development activities,* provides both financial support and assistance from the instructional development program for faculty who wish to initiate a full-scale development effort. They felt that this model represented a low-profile approach which cultivated faculty support for instructional development activities and provided for control by the instructional development agency.

Implications for Implementing Instructional Development Programs

The final section of this chapter represents an attempt to derive implications from the literature with respect to the implementation and operation of an instructional development program. The purpose of this section is to present prevailing opinions about key issues which must be considered in the process of implementing an instructional development program.

ADMINISTRATIVE COMMITMENT

Major academic change requires serious administrative commitment in actions as well as words. Ideally, this commitment should include: (1) financial support for the program, preferably from "hard" institutional moneys rather than from short-term grants; (2) establishment of administrative procedures that facilitate change (a new credit system, flexible classroom scheduling, etc.); (3) access to various institutional resources which may be necessary in the development process (such as computers, media support, etc.). Without a firm commitment to instructional change, the fate of any program is sealed almost before it starts (Buhl, 1975; Detweiler, 1973; Diamond, 1971; Diamond, 1974; Diamond *et al.*, 1975; McMillan, 1975; Schauer, 1971).

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ADMINISTRATIVE LOCATION OF INSTRUCTIONAL DEVELOPMENT AGENCIES

In order to provide a catalyst for change and to support faculty in their attempts at innovation, some sort of instructional development agency or program should be established. The administrative location of such an agency or program should be such that it reports to the chief academic officer of the institution. Access to this level of administration is important since a wide-ranging instructional development program may have institution-wide impact and may necessitate institutional policy changes, reallocation of financial, material, and human resources, or may require other high-level administrative decisions and support (Alexander and Yelon, 1972; Detweiler, 1973; Diamond *et al.*, 1975; Heinich, 1971).

INSTITUTIONAL REWARD STRUCTURE

The institutional structure must reward faculty for quality teaching and innovation in instruction. Rewards such as campus recognition, faculty teaching awards, and the like are a step in the right direction, but they are not enough. The most effective rewards are in the nature of official recognition by the institution in terms of promotion, tenure, salary, and other marks of status. Instructional development agencies should play a part in attempting to change the institutional reward structure where necessary so that faculty may benefit in a concrete manner from their attempts at innovation (Alexander and Yelon, 1972; Buhl, 1975; Detweiler, 1973; Diamond, 1974; Diamond *et al.*, 1975; Gaff, 1975 a, 1975 b; Group for Human Development, 1974; Hoban, 1974; Holsclaw, 1974; McMillan, 1975).

INSTRUCTIONAL DEVELOPMENT PROCEDURES

There are many different "models" or instructional development processes which are followed by various instructional development agencies. Each model represents a particular individual's or agency's method of applying a systematic process to the development of instruction. Little research exists to guide an agency in selecting or developing a model to follow, but the advice from the literature seems to be clear that some sort of instructional development procedure should be adopted and followed in order to facilitate the development process and assure communication among the individuals involved (Diamond, 1971; Diamond, *et al.*, 1975; Hamreus, 1971; Holsclaw, 1974; Lee, 1971; Schauer, 1971).

TEAM APPROACH TO INSTRUCTIONAL DEVELOPMENT

The complex nature of the academic change process and the c
prehensiveness of a systematic instructional development effort req
many sets of talents and areas of expertise. The use of a team app
involving several faculty members and various professionals in instr
tional development and evaluation, is highly recommended as a me
for bringing varied human resources to bear on this complex task (
mond *et al.*, 1975; Faris, 1970; Gustafson, 1971; Lee, 1971; Wit
and Schuller, 1973).

FACULTY DEVELOPMENT

Producing meaningful, long-range academic changes in higher e
tion requires that faculty be effectively involved in the instructional
velopment program. Attention should be paid to the development
faculty members' skills in instructional development. The majority
opinions offered suggest that a major goal of any successful program
should be for faculty to become instructional developers in their ow
right (Abedor and Gustafson, 1971; Beilby, 1974; Briley, 1971; D
Bloois and Alder, 1973; Faris, 1970; Gaff, 1975 b; Group for Hu
Development, 1974; Gustafson, 1971; Gustafson, 1975; Hoban, 1
Roueche and Boggs, 1970; Ullmer and Stakenas, 1971).

Various workshops and training sessions have been advanced as
ways to achieve this objective; however, little data about the long-te
effectiveness of these approaches are available. Hammons (1975) re-
ported that short-term workshops by themselves have not proven to
effective in producing long-range change. He suggested that certain f
low-up activities be included in order to maximize the impact of wo
shops. In addition, he listed a set of guidelines to be followed in the
development of workshops intended to improve faculty skills in the
teaching-learning process.

MAXIMIZING IMPACT

To have maximum impact on institutional programs, instructiona
development agencies should identify the top priorities of the institut
and choose projects which reflect these priorities. The goal should b
to complete a few major projects which have widespread impact rath
than to support numerous small projects which have little overall imp
on the nature of the academic program. In addition, every possible a
tempt should be made to assure the long-term stability of the project.
A key first step in the process is to select projects from departments
where the staffing pattern is relatively stable and where the political
climate is free from divisive problems which would eventually doom a
project to failure. Another step toward stability is the involvement o
more than one faculty member in the project, thereby assuring that

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other faculty members will be able to carry on the project even if a key person leaves the institution. Finally, the agency should structure the conditions for institutional support of the project so that after the developmental stage is completed the institution will continue to support the new course as a part of its normal academic program (Diamond, 1971; Diamond *et al.*, 1975; Haney, Lange, and Barson, 1968).

INCLUDE EVALUATION

The consensus in the literature is clear that any instructional development effort must include evaluation. Evaluation can help insure more successful projects by informing the development process, but it is also important to assist the institution in judging the worth of the instructional improvement enterprise. Without adequate evaluation, it is not possible to describe accurately what was accomplished. Instructional changes, attitude changes, program effectiveness and efficiency, student learning, and faculty attitudes should all be examined as a part of the evaluation process (Diamond, 1971; Diamond, *et al.*, 1975; Engel, 1969; Gaff, 1975 b; Gerlach and Ely, 1971; Gustafson, 1971; Hamreus, 1971; Holsclaw, 1974; Lee, 1971; Popham, 1974; Schauer, 1971; Wittich and Schuller, 1973).

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